

APPLICATION PACKET

for

**AIR QUALITY CONTROL
GENERAL PERMIT**

for

**SOIL VAPOR EXTRACTION
UNITS**



Arizona Department of Environmental Quality

Air Quality Division

INTRODUCTION

This packet has been developed specifically for applicants applying for coverage under the Soil Vapor Extraction Unit (SVEU) General Permit in lieu of an individual permit. However, this packet is not intended as a substitute for Arizona Air Quality Regulations.

To expedite the processing of an air quality permit application the Arizona Department of Environmental Quality (ADEQ) has created a general permit for SVEUs which significantly expedites the permitting process. The SVEU General Permit, hereafter referred to as General Permit, covers SVEUs which are subject to Federal, State and/or County regulations. The General Permit covers only those SVEUs which have a manufacturer listed Volatile Organic Compounds (VOCs) destruction efficiency of 90% or greater. When the inlet concentration is less than 1000 parts per million by volume (ppmv), this 90% destruction efficiency requirement does not apply.

Facilities which meet the criteria in the general permit and are covered under the general permit will pay lower annual air quality fees than those covered under an individual air quality permit. This application assists an applicant in determining if their facility meets the criteria for coverage under the general permit. If it is determined that the facility meets the criteria for coverage, this application packet assists the applicant in the submittal of the information that is required to process their application for the general permit.

Applicants wishing to obtain an air quality permits shall apply to the Arizona Department of Environmental Quality (ADEQ), except for facilities which will be located exclusively in one of the following counties: Maricopa, Pima, or Pinal County. If the facility will be exclusively located in Maricopa, Pima, or Pinal County, the county agency will process the air quality permit application.

If the applicant has any questions regarding jurisdictional issues, please contact the appropriate agency at the phone number below:

ADEQ: 1-800-234-5677, ext. 771-2337
Maricopa County: (602) 506-6616
Pima County: (520) 740-3340
Pinal County: (520) 868-6929

DISCLAIMER

This application packet does not waive the rights of the Director as provided under Arizona Administrative Code (A.A.C.) R18-2-304 to request that additional information be submitted by the applicant to assist in the processing of the application for an air quality permit. Any applicant who fails to submit any relevant facts or who has submitted incorrect information in a permit application shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary facts or corrected information. In addition, an applicant shall provide additional information as necessary to address any requirements that become applicable to the source after the date it filed a complete application but prior to release of a proposed permit. Any difference in from between this application packet and Title 18, Chapter 2 of the A.A.C., the A.A.C. shall take precedence.

The applicant shall read all sections of this packet very carefully and provide all necessary information requested. The final application submitted should include the forms in Appendix of this packet and necessary attachments (i.e., site diagram showing the following: equipment building layout, building heights, location of emission points, property boundaries, adjacent streets, directional arrow, elevation, and scale). Additional copies of the forms may be made as necessary.

PERMIT ISSUANCE TIME FRAME

According to A.A.C. R18-1-525, ADEQ has 21 business days to determine if the submitted general permit application is complete. Once the application is determined to be complete, the Department has 103 business days to make a licensing decision on the application. The counting of the days can be suspended by the Department upon the determination that additional information is needed. In such a case, a letter will be sent to the applicant informing them that the counting of days has been suspended, and will also specify what additional information is necessary to continue processing the application.

1. APPLICATION INSTRUCTIONS

This application packet consists of nine sections which are summarized as follows:

Section 1: Standard Permit Application Form

A.A.C. R18-2-304 requires applicants to submit the STANDARD APPLICATION FORM (FORM #1) and all information required by the FILING INSTRUCTIONS. Instructions for completing FORM #1 are as follows:

- A. Items #1 through #5 of the application form are self-explanatory.
- B. Item #6: The Plant/Site Manager or Contact Person shall be the person that ADEQ may contact for any additional information.
- C. Item #7: Specify the location of the plant. The township/range/section may be substituted for latitude/longitude coordinates which are specified in degrees, minutes and seconds.
- D. Item #8: The "Equipment Purpose" shall be SVEU. List all equipment to be located at the plant.
- E. Item #9: If the "other" box is checked, please be specific as to what the organization is.
- F. Item #10: Asks for the Permit Application Basis which indicates what type of permit is necessary.
 - 1. If the equipment has never been permitted in Arizona before, then the box marked "New Source" should be checked.
 - 2. If the equipment is already permitted then the box titled "Renewal of Existing Permit" should be checked and the current permit number must be included.
 - 3. The box titled "General Permit" should be checked.
 - 4. For new sources the "Date of Commencement of Construction or Modification" is the expected date that construction will begin (for existing sources, this date need not be defined).
 - 5. If there is any chance that the equipment will be leased out, answer "yes".
 - 6. The Standard Industrial Classification Code for SVEU is **4953**. State Permit Class shall be **Class II**.
- G. Item #11 and #12: The "Responsible Official" is the owner or partner of the company in most cases. It may also be the president or vice-president of larger companies. If there is a question as to who the responsible official is, contact Compliance Assistance at ADEQ for more information at 602-771-4251.

Section 2: General Permit Applicability Checklist

ADEQ expects that most, but not all, facilities will qualify for coverage under the general permit. Form A of this application packet has been developed to determine if your facility qualifies for coverage. Those facilities which do not qualify must obtain an individual (source specific) air quality permit. This application packet will also assist the applicant in the preparation of an application for an individual air quality permit.

Section 3: Emission Sources Table

A.A.C. R18-2-304 requires applicants to submit the "Emission Sources" Table (Form B) and all information required by the FILING INSTRUCTIONS. Instructions for completing Form B can be found at the bottom of the form.

Section 4: Exhaust Velocity Calculations

Stack exhaust velocity calculations are based on the dimensions of the exhaust stack and the flow rate of the SVEU. Form C can be used to record the stack dimensions and SVEU flow rate in order to calculate the exhaust exit velocity. All calculations should be based upon the actual flow rate

Section 5: Equipment List

ADEQ needs to be able to identify all pieces of equipment covered under the General Permit. Use Form D to provide a list of all pieces of equipment to be permitted including control equipment.

The list should include the type of equipment, the make, model, maximum rated capacity, serial number, manufacture date, and an equipment identification number of each piece of equipment.

Section 6: Air Pollution Controls

All pollution control equipment and pollution control procedures must be described in order to satisfy this submittal requirement. Form E can be used to submit the necessary pollution control information.

Section 7: Compliance Certification / Certification of Truth, Accuracy, and Completeness

A "Certification of Compliance with all Applicable Requirements", and "Certification of Truth, Accuracy, and Completeness" must be signed by a Responsible Official. Form F can be used to satisfy this requirement.

Section 8: Filing Instructions

1. An application fee of \$500.00 must be submitted by all applicants (Annual Administrative Fees are shown in Form G). Please make your check or money order payable to ADEQ. The application fee must accompany each application submittal.
2. Please mail the Standard Permit Application Form, Forms A through F of the application packet, all necessary maps and diagrams, and the \$500.00 application fee to the following address:

Arizona Department of Environmental Quality
Air Quality Division
1110 West Washington Street, 3415A-3
Phoenix, Arizona 85007-2935

3. Please remember to make photo copies of all forms in the application packet before mailing.
4. Pages 1 through 6 of the application packet should be kept by the applicant for reference purposes.

STANDARD PERMIT APPLICATION FORM

(As required by A.R.S. § 49-426, and Chapter 2, Article 3, Arizona Administrative Code)

1. Permit to be issued to: (Business license name of organization that is to receive permit) _____

2. Mailing Address: _____
City: _____ State: _____ ZIP: _____
3. Previous Company Name: (if applicable) _____
4. Name (or names) of Owners/Principals: _____
FAX #: _____ Phone: _____
5. Name of Owner's Agent: _____
FAX #: _____ Phone: _____
6. Plant/Site Manager/Contact Person and Title: _____
FAX #: _____ Phone: _____
7. Plant Site Name: _____
Plant Site Location/Address: _____
City: _____ County: _____ ZIP: _____
Indian Reservation (if applicable, which one): _____
Latitude/Longitude, Elevation: _____
8. Equipment Purpose: _____
Equipment List/Description: _____

9. Type of Organization:
☐ Corporation ☐ Individual Owner
☐ Partnership ☐ Government Entity (Government Facility Code: _____)
☐ Other _____
10. Permit Application Basis: ☐ New Source ☐ Revision ☐ Renewal of Existing Permit
(Check all that apply.) ☐ Portable Source ☒ General Permit
For renewal or modification, include existing permit number (and exp. date): _____
Date of Commencement of Construction or Modification: _____
Is **any** of the equipment to be leased to another individual or entity? ☐ Yes ☐ No
Standard Industrial Classification Code: 4953 State Permit Class: **Class II General**
11. Signature of Responsible Official of Organization: _____
Official Title of Signer: _____
12. Typed or Printed Name of Signer: _____
Date: _____ Telephone Number: _____

FORM A

The following questions have been developed to determine if your facility meets the criteria for coverage under the general permit or is required to obtain an individual permit.

Question #1 Will this SVEU be used to treat **ONLY** motor fuel contaminated sites?

☐ YES ☐ NO

If the answer is YES, proceed to Question #2

If the answer is NO, the facility does not qualify for coverage under the general permit and must obtain an individual permit. Please contact the Air Quality Permits Section at ADEQ for assistance.

Question #2 Will this SVEU be used to treat sites containing **halogenated compounds**?

☐ YES ☐ NO

If the answer is YES, proceed to Question #3

If the answer is NO, proceed to Question #4

Question #3 If treating **halogenated compounds** will this SVEU operate utilizing carbon adsorption?

☐ YES ☐ NO

If the answer is YES, proceed to Question #4

If the answer is NO, the facility does not qualify for coverage under the general permit and must obtain an individual permit. Please contact the Air Quality Permits Section at ADEQ for assistance.

Question #4 Will this SVEU be operated inside of Maricopa County?

☐ YES ☐ NO

If the answer is YES, proceed to Question #5

If the answer is NO, proceed to Question #9

Question #5 Do gases exiting the SVEU have a total VOC emission rate equal to or less than 22.5 tons/year?

☐ YES ☐ NO

If the answer is YES, proceed to Question #7

If the answer is NO, proceed to Question #6

Question #6 Will the facility be willing to control the VOC emissions exiting the SVEU stack in order to comply with question #5 above?

☐ YES ☐ NO

If the answer is YES, proceed to Question #7

If the answer is NO, the facility does not qualify for coverage under the general permit and must obtain an individual permit. Please contact the Air Quality Permits Section at ADEQ for assistance.

Question #7 Do gases exiting the SVEU have a total VOC emission rate equal to or less than 135 Pounds/Day?

☐ YES ☐ NO

If the answer is YES, proceed to Question #9

If the answer is NO, proceed to Question #8

Question #8 Will the facility be willing to control the VOC emissions exiting the SVEU stack in order to comply with question #7 above?

☐ YES ☐ NO

If the answer is YES, proceed to Question #9

If the answer is NO, the facility does not qualify for coverage under the general permit and must obtain an individual permit. Please contact the Air Quality Permits Section at ADEQ for assistance.

Question #9 Do gases exiting the SVEU have an outlet Benzene emission rate equal to or less than 67 Pounds/Year?

☐ YES ☐ NO

If the answer is YES, proceed to Question #11

If the answer is NO, proceed to Question #10

Question #10 Will the facility be willing to control its benzene emissions exiting the SVEU stack in order to comply with question #9 above?

☐ YES ☐ NO

If the answer is YES, proceed to Question #11

If the answer is NO, the facility does not qualify for coverage under the general permit and must obtain an individual permit. Please contact the Air Quality Permits Section at ADEQ for assistance.

Question #11 Do gases exiting the SVEU have an outlet Benzene emission rate equal to or less than 0.55 Pounds/Hour?

☐ YES ☐ NO

If the answer is YES, proceed to Question #13

If the answer is NO, proceed to Question #12

Question #12 Will the facility be willing to control the benzene emissions exiting the SVEU stack in order to comply with question #11 above?

☐ YES ☐ NO

If the answer is YES, proceed to Question #13

If the answer is NO, the facility does not qualify for coverage under the general permit and must obtain an individual permit. Please contact the Air Quality Permits Section at ADEQ for assistance.

Question #13 Will the SVEU inlet stream have a VOC concentration less than 20,000 ppmv?

☐ YES ☐ NO

If the answer is YES, proceed to Question #14

If the answer is NO, the facility does not qualify for coverage under the general permit and must obtain an individual permit. Please contact the Air Quality Permits Section at ADEQ for assistance.

Question #14 Will the stack height for this SVEU be at least 13 feet above ground level?

☐ YES ☐ NO

If the answer is YES, proceed to Question #15

If the answer is NO, the facility does not qualify for coverage under the general permit and must obtain an individual permit. Please contact the Air Quality Permits Section at ADEQ for assistance.

Question #15 Is the SVEU either electrically powered or fueled with natural gas or propane?

☐ YES ☐ NO

If the answer is YES, proceed to Question #16

If the answer is NO, the facility does not qualify for coverage under the general permit and must obtain an individual permit. Please contact the Air Quality Permits Section at ADEQ for assistance.

Question #16 Will the SVEU operate utilizing carbon adsorption?

☐ YES ☐ NO

If the answer is YES, proceed to Question #17

If the answer is NO, proceed to Question #18

Question #17 When the SVEU is utilizing carbon adsorption, will the gases entering the SVEU system be fed through a minimum of two granulated activated carbon (GAC) canisters arranged in series?

☐ YES ☐ NO

If the answer is YES, the facility qualifies for coverage under this general permit.

If the answer is NO, the facility does not qualify for coverage under the general permit and must obtain an individual permit. Please contact the Air Quality Permits Section at ADEQ for assistance.

Question #18 Will the SVEU operate utilizing thermal oxidation?

☐ YES ☐ NO

If the answer is YES, proceed to Question #19

If the answer is NO, proceed to Question #20

Question #19 When the SVEU is operating utilizing thermal oxidation, will the process temperature be equal to or greater than 1400 degrees Fahrenheit (°F)?

☐ YES ☐ NO

If the answer is YES, proceed to Question #22.

If the answer is NO, the facility does not qualify for coverage under the general permit and must obtain an individual permit. Please contact the Air Quality Permits Section at ADEQ for assistance.

Question #20 Will the SVEU operate utilizing catalytic oxidation?

☐ YES ☐ NO

If the answer is YES, proceed to Question #21.

If the answer is NO for questions #16, #19, and #21, the facility does not qualify for coverage under the general permit and must obtain an individual permit. Please contact the Air Quality Permits Section at ADEQ for assistance.

Question #21 When the SVEU is operating in catalytic oxidation mode, will the process temperature be equal to or greater than 600 °F?

☐ YES ☐ NO

If the answer is YES, proceed to Question #22.

If the answer is NO, the facility does not qualify for coverage under the general permit and must obtain an individual permit. Please contact the Air Quality Permits Section at ADEQ for assistance.

Question #22 If operating the SVEU utilizing thermal or catalytic oxidation, do the gases exiting the SVEU have an exit velocity equal to or greater than 2.30 actual meters per second (m/s) as calculated in form C.

☐ YES ☐ NO

If the answer is YES, the facility qualifies for coverage under this general permit.

If the answer is NO, the facility does not qualify for coverage under the general permit and must obtain an individual permit. Please contact the Air Quality Permits Section at ADEQ for assistance.

FORM B

COMPANY NAME: _____

EMISSION SOURCE

Estimated "Potential to Emit" per R18-2-101.

Review of applications and issuance of permits will be expedited by supplying all necessary information on this Table.

REGULATED AIR POLLUTANT DATA					EMISSION POINT DISCHARGE PARAMETERS					
EMISSION POINT [1]		CHEMICAL COMPOSITION OF TOTAL STREAM	REGULATED AIR POLLUTANT EMISSION RATE		STACK SOURCES [6]			NONPOINT		
NUMB ER	NAME	REGULATED AIR POLLUTANT NAME [2]	LB/HR. [3]	TONS/ YEAR [4]	HEIGHT ABOVE GROUND (ft)	EXIT DATA			SOURCES [7]	
						DIA. (m)	VEL. (mps)	TEMP. (°F)	LENGTH (ft.)	WIDTH (ft.)

GROUND ELEVATION OF FACILITY ABOVE MEAN SEA LEVEL _____ feet

ADEQ STANDARD CONDITIONS ARE 293K AND 101.3 KILOPASCALS (A.A.C. R18-2-101)

General Instructions:

- Identify each emission point with a unique number for this plant site, consistent with emission point identification used on plot plan, previous permits, and Emissions Inventory Questionnaire. Include fugitive emissions. Limit emission point number to eight (8) character spaces. For each emission point use as many lines as necessary to list regulated air pollutant data. Typical emission point names are: heater, vent, boiler, tank, reactor, separator, baghouse, fugitive, etc. Abbreviations are O.K.
- Components to be listed include regulated air pollutants as defined in R18-2-101. Examples of typical component names are: Carbon Monoxide (CO), Nitrogen Oxides (NO_x), Sulfur Dioxide, (SO₂), Volatile Organic Compounds (VOC), particulate matter (PM), particulate less than 10 microns (PM10), etc. Abbreviations are O.K.
- Pounds per hour (#/HR) is maximum potential emission rate expected by applicant.
- Tons per year is annual maximum potential emissions expected by applicant, which takes into account process operating schedule.

As a minimum, applicant shall furnish a facility plot plan as described in the filing instructions. UTM coordinates are required only if the source is a major source or is required to perform refined modeling for the purposes of demonstrating compliance with ambient air quality guidelines.

Supply additional information as follows if appropriate:

- Stack exit configuration other than a round vertical stack. Show length and width for a rectangular stack. Indicate if horizontal discharge with a note.
- Stack's height above supporting or adjacent structures if structure is within 3 "stack height above the ground" of stack.

Dimensions of nonpoint sources as defined in R18-2-101.

FORM C

Exhaust Gas Exit Velocity Calculations

Exhaust Velocity Calculating Steps

Stage 1. Exhaust Stack Diameter (multiplication)

Inches to Meters		Feet to Meters		
Inches (in)	Conversion Factor	Feet (ft)	Conversion Factor	Meters (m)
	0.0254		0.3048	

- Insert manufacturer's listed exit stack diameter in the proper units slot.
- If listed stack diameter is given in meters proceed to stage 2 of conversions.
- If listed stack diameter is given in either inches or feet multiply by associated conversion factor from table to achieve diameter in meters.

Stage 2. Exhaust Stack Area (multiplication)

Stack Diameter (m)	Diameter Squared (m ²)	Conversion Factor For Area	Exhaust Stack Area (m ²)
		0.7854	

- Insert final meter calculation from Stage 1 above, into "Stack Diameter" slot.
- Square diameter and enter resulting number into "Diameter Squared" slot.
- Multiply number in "Diameter Squared" slot by the number found in the "Conversion Factor for Area" slot, and record in the "Exhaust Stack Area" slot.

Stage 3. Exhaust Flow Rate (multiplication)

Actual Cubic Feet per Minute (ACFM) to Actual Cubic Meters per Second (ACMS)		
ACFM	Conversion Factor	ACMS
	0.0004719	

- If manufacturer's listed exhaust flow rate is given in ACFM rather than in ACMS, insert ACFM number into "ACFM" slot and multiply by the associated conversion factor and record in the "ACMS" slot and proceed to Stage 4.
- If manufacturer's listed exhaust flow rate is given in ACMS then record in proper slot in table and proceed to Stage 4.

Stage 4. Exhaust Gas Exit Velocity (division)

Exhaust Flow Rate (ACMS)	Exhaust Stack Area (m ²)	Exhaust Gas Exit Velocity (meters/second)

- Insert number from Stage 3 "ACMS" slot into "Exhaust Flow Rate" slot.
- Insert calculated value from "Exhaust Stack Area" of Stage 2 into "Exhaust Stack Area" slot above.
- Divide "Exhaust Flow Rate" value by the "Exhaust Stack Area" value, and record result in "Exhaust Gas Exit Velocity" slot.

FORM D
Equipment List

Type of Equipment	Size	Manufacturer	Manufacture Date	Model	Serial #	Equipment ID (Required)

FORM E

Air Pollution Controls

Please complete this summary table for each proposed pollution control device (be sure to include site diagrams and topo maps with this packet)

Air Pollution Control Devices (APCD)	
Annual Operating Hours	
Fuel Type(s) for APCD (i.e. natural gas, propane, or electrical energy)	
Maximum Fuel Usage for APCD (cfm)	
Maximum VOCs and Benzene concentrations (ppmv) Include both inlet and outlet concentrations	
Stack Height Above Ground Level (ft)	
Maximum Rated Exit Flow rate (acfm)	
Process Temperature of the Incineration Section (°F)	

FORM F

Certification of Compliance with all Applicable Requirements:

This certification must be signed by a Responsible Official. Applications without a signed certification will be deemed incomplete.

The responsible official is defined as a person who is in charge of principal business functions or who performs policy or decision making functions for the business. This may also include an authorized representative for such persons. For a complete definition see the Arizona Administrative Code, Title 18, Chapter 2, Section R18-2-301.

I certify that I have knowledge of the facts herein set forth, that the same are true, accurate and complete to the best of my knowledge and belief, and that all information not identified by me as confidential in nature shall be treated by the Arizona Department of Environmental Quality as public record. I also attest that I am in compliance with the applicable requirements listed in Section 1 of the Compliance Plan and will continue to comply with such requirements and any future requirements that become effective during the life of my permit. I will present a certification of compliance to ADEQ no less than annually and more frequently if specified by ADEQ. I further state that I will assume responsibility for the construction, modification, or operation of the source in accordance with Arizona Administrative Code, Title 18, Chapter 2 and any permit issued thereof.

Name (Print/Type): _____

(Signature): _____ Date: _____

Certification of Truth, Accuracy, and Completeness Arizona Administrative Code R18-2-304.H.

R18-2-304.H. Certification of Truth, Accuracy, and Completeness. Any application form, report, or compliance certification submitted pursuant to this Chapter shall contain certification by a responsible official of truth, accuracy, and completeness. This certification and any other certification required under this Article shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

By my signature I, _____, hereby certify that based on information and belief formed after reasonable inquiry, the statements and information in this document are true, accurate, and complete.

Name (Print/Type): _____

(Signature): _____ Date: _____

FORM G - Fee Summary
Fee Rule Summary for General Permits

SOURCE	
SOIL VAPOR EXTRACTION UNIT GENERAL PERMIT	
CLASS II	
<u>APPLICATION FEE</u> \$500	<u>ANNUAL INSPECTION FEE</u> \$2,170
<p>There is no fee for transfers, administrative amendments, or facility change notices that do not require a permit revision. Administrative and Inspection fees are due each year no later than March 31st or 60 days after the Director mails the invoice, whichever is later. Information for this table was taken from A.A.C. R18-2-511</p>	